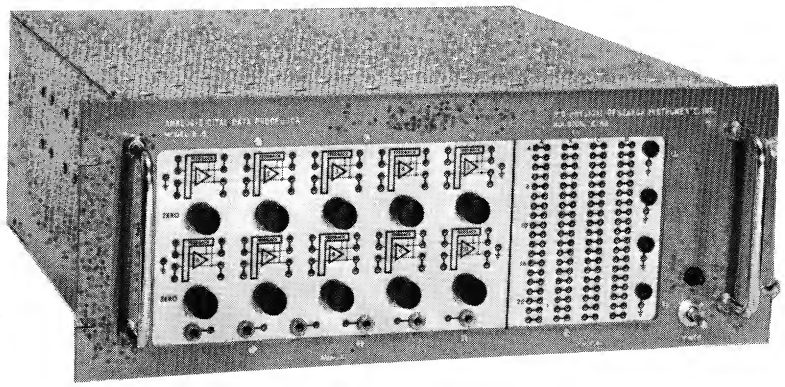
ANALOG–DIGITAL DATA PROCESSOR

MODEL 806



THE MODEL 806 IS AN EXTREMELY EFFICIENT AND VERSATILE UNIT FOR PROGRAMMING AN ANALOG AND/OR DIGITAL SOLUTION TO A DATA PROCESSING OR CONTROL PROBLEM. IT IS MADE UP OF TEN D. C. OPERATIONAL AMPLIFIERS, TEN PLUG–IN MULTIPLE PURPOSE FEEDBACK BOARDS AND FOUR MULTIPLE CIRCUIT DIGITAL SIGNAL PROCESSING MODULES.

THE ANALOG PORTION OF THE MODEL 806 IS DESIGNED SO THE FEEDBACK COMPONENTS MAY BE MOUNTED ON THE FEEDBACK BOARD AND BE INSERTED INTO THE MODULE FILE. BY THE SELECTION OF THE APPROPRIATE FEEDBACK COMPONENTS, THESE OPERATIONAL AMPLIFIERS MAY BE USED TO ADD, SUBTRACT, AVERAGE, INTEGRATE AND DIFFERENTIATE. THE MATHEMATICAL PROCESSES OF MULTIPLICATION AND DIVISION MAY BE DONE BY THE USE OF THE APPROPRIATE NON–LINEAR CIRCUIT ELEMENTS. THE APPLICATIONS THAT THE OPERATIONAL AMPLIFIER MAY FILL IS LIMITED PRIMARILY BY THE INGENUITY OF THE USER.

THE DIGITAL CIRCUITS THAT MAY BE USED WITH THE MODEL 806 INCLUDES BISTABLE MULTIVIBRATORS, ASTABLES MULTIVIBRATORS, MONOSTABLE MULTIVIBRATORS, SCHMITT TRIGGERS, AND LOGIC, OR LOGIC, DIGITAL FILTERS, BINARY COUNTERS, DECADE COUNTERS, VOLTAGE TO FREQUENCY CONVERTERS AND MANY OTHERS. THE NUMBER OF CIRCUITS THAT CAN BE ACCOMMODATED IS GOVERNED BY THE COMPLEXITY OF THE CIRCUIT. UP TO TWENTY–FOUR, TWO INPUT LOGIC CIRCUITS MAY BE USED; SIXTEEN BISTABLE MULTIVIBRATORS OR FOUR DECADE COUNTERS CAN BE ACCOMMODATED.

THIS SYSTEM WAS DESIGNED TO BE USED BY THE RESEARCH SCIENTIST TO PACKAGE IN AN EFFICIENT WAY A "SPECIAL PURPOSE" DATA PROCESSOR. THE FRONT PANEL OF THE 806 IS A PATCH PANEL FOR INTERCONNECTING THE ANALOG AND/OR DIGITAL CIRCUITS TO MAKE A COMPLEX ANALOG, DIGITAL OR HYBRID DATA PROCESSING SYSTEM. IT WAS ALSO INTENDED FOR USE AS A REASONABLY PRICED TEACHING INSTRUMENT THAT A STUDENT CAN USE TO OBSERVE THE APPLICATION OF FEEDBACK THEORY AND THE USE OF DIGITAL PROCESSING TECHNIQUES.

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THE MODEL 806 IS ONLY THE ASSEMBLY THAT PROVIDES POWER (±15 VOLTS D. C.) FOR THE PLUG-IN MODULES, A PLUG-IN RECEPTACLE FOR THE MODULES AND PROVISIONS FOR INTERCONNECTING THE ANALOG AND DIGITAL MODULES AND CIRCUITS. THE ANALOG AND DIGITAL MODULES FOR THIS UNIT SHOULD BE SELECTED FROM THE SERIES 400 ANALOG MODULES AND THE SERIES 500 DIGITAL MODULES.

SPECIFICATIONS:

MOUNTING:	7" x 19" x 16" RACK
WEIGHT:	25 NOMINAL
POWER:	115 VAC 60 CPS (PRIMARY)
	±15 VDC, 750 MA (INTERNAL)

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ANALOG MODULES

SERIES 400

The Series 400 Modules were designed to process analog signals in the same manner that a standard analog computer processes them. This Series consist of three classes of modules:

I. A moderate gain, moderate stability class that is used primarily to provide an impedance interface between a high impedance source and a low impedance load.

II. A high gain, high stability non-chopper stabilized class of modules and that was designed to fill the majority of the instrumentation requirements.

III. An extremely stable class of amplifier that utilizes high quality components, and is chopper stabilized to provide extremely high quality signal processing.

The 401, 402, 402A operational amplifier- feedback board combination are of the first class. These units have dimensions of 2 1/2" x 4 1/2" x 1 1/2", and use a 15 pin in-line printed circuit connector. The 401B is of the second class. (It has the same dimension as the 401 and utilizes the same feedback board). The feedback boards 402 and 402A were designed in such a manner that the feedback components may be mounted and inserted into the assembly card file, to become either a temporary or permanent part of an instrument assembly. The 403, 404 amplifier-feedback board combination was designed to be a single module. The 403 operational amplifier mounts directly on the 404 feedback board. (This amplifier is of the class II type). This module has dimensions of 4 1/2" x 4 1/4" x 1" with the appropriate cut out for using a 22 pin in-line printed circuit connector. The 405 and 406 amplifier-feedback board combination is of class III type. It is of the same configuration and has the same dimensions as the 403 and 404. All of these modules use a supply voltage of supply $\pm$ 12 to $\pm$15 volts, and the current requirements are $\pm$ 15 milliamperes. These modules were designed to be used in signal processing applications, such as, summing, subtracting, averaging, intergrating, and differentiating. They may be used for other non-linear applications by the use of the appropriate feedback components and networks.

DIGITAL MODULES

SERIES 500

THE SERIES 500 IS A COMPATIBLE SERIES OF DIGITAL MODULES. THE SERIES COVERS THE ENTIRE SPECTRUM OF CIRCUITS FOR PROCESSING DIGITAL SIGNALS AT A MODERATE SPEED. ALL OF THE MODULES IN THE SERIES HAVE THE SAME POWER REQUIREMENTS (±12 VOLTS @15 MILLIAMPERES, NOMINAL). THE MODULE DIMENSIONS ARE 4 1/2" X 4 1/4" X 1/2" WITH NOTCHES TO PROVIDE THE APPROPRIATE DIMENSIONS FOR A 22 PIN IN-LINE PRINTED CIRCUIT BOARD CONNECTOR. THESE MODULES HAVE SWITCHING RATES IN EXCESS OF 100,000 PER SECOND AND EACH MODULE IS DESIGNED TO INTERFACE WITH ALL OF THE OTHER MODULES. THIS SERIES CONSISTS OF THE FOLLOWING:

MODEL 501-1	BISTABLE MULTIVIBRATOR (FOUR CIRCUITS)
MODEL 501-2	BINARY COUNTER (0-15)
MODEL 501-3	DECADE COUNTER
MODEL 501-4	SHIFT REGISTER, PARALLEL (FOUR CIRCUITS)
MODEL 501-5	SHIFT REGISTER, SERIAL (FOUR CIRCUITS)
MODEL 501-6	SCHMITT TRIGGER (FOUR CIRCUITS)
MODEL 501-7	MONOSTABLE MULTIVIBRATOR (FOUR CIRCUITS)
MODEL 501-8	ASTABLE MULTIVIBRATOR (FOUR CIRCUITS)
MODEL 502-1	NOR LOGIC, 4 ONE INPUT CIRCUITS AND 1 FOUR INPUT CIRCUIT
MODEL 502-2	NOR LOGIC, 6 TWO INPUT CIRCUITS
MODEL 502-3	NOR LOGIC, 4 THREE INPUT CIRCUITS
MODEL 502-4	NOR LOGIC, 3 FOUR INPUT CIRCUITS
MODEL 503-3	BCD (1, 2, 4, 8) TO DECIMAL DECODER
MODEL 503-4	BCD (1, 2, 2, 4) TO DECIMAL DECODER
MODEL 503-25	LATERAL PARITY GENERATOR
MODEL 504-1	NAND LOGIC, 6 TWO INPUT CIRCUITS
MODEL 504-4	NAND LOGIC, 4 THREE INPUT CIRCUITS
MODEL 504-5	NAND LOGIC, 3 FOUR INPUT CIRCUITS
MODEL 505	VOLTAGE TO FREQUENCY CONVERTER
MODEL 507-1	EMITTER FOLLOWER, EIGHT CIRCUITS
MODEL 513-1	EXCLUSIVE OR
MODEL 518	DIGITAL SELECTIVE FILTER
MODEL 519	CRYSTAL OSCILLATOR 100,000 CPS WITH SINE AND SQUARE WAVE OUTPUTS

PRICE LIST

ANALYZERS

MODEL 102	EEG Period Analyzer	$ 10,300.00
MODEL 102A	Analog to Pulsewidth Converter	2,500.00
MODEL 102B	Anti-Coincidence Computer	750.00
MODEL 102C	Spectral Computer	1,500.00
MODEL 106	GSR Analyzer	1,650.00
MODEL 108	Respiration Analyzer	1,650.00

LABORATORY SIGNAL PROCESSORS

MODEL 201R	GSR Amplifier, Rack Mount	995.00
MODEL 201C	GSR Amplifier with Cabinet	1,030.00
MODEL 202	GSR Amplifier, Transistorized	895.00
MODEL 205	Skin Conductance Amplifier	750.00
MODEL 211	Impedance Respirometer	625.00

RECORDERS

MODEL 302	Basic Recorder	910.00
MODEL 302T	Basic Recorder with Transmission	985.00
MODEL 302L6	Basic Recorder with Left Marker Pen	940.00
MODEL 302R6	Basic Recorder with Right Marker Pen	940.00
MODEL 302T-L6	Basic Recorder w/ Transmission and Left Marker Pen	1,015.00
MODEL 302T-R6	Basic Recorder w/Transmission and Right Marker Pen	1,015.00
MODEL 302T-LR6	Basic Recorder w/Transmission Left and Right Marker Pen	1,045.00
	Front and Rear Terminals Optional	15.00

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ANALOG MODULES

MODEL 401	D. C. Operational Amplifier	$ 37.50
MODEL 401A	D. C. Operational Amplifier	47.50
MODEL 401B	D. C. Operational Amplifier	60.00
MODEL 402	Feedback Board	8.75
MODEL 403	D. C. Operational Amplifier	75.00
MODEL 404	Feedback Board	12.50

DIGITAL MODULES

MODEL 501–1	Bistable Multivibrators (4)	$ 29.50
MODEL 501–2	Binary Counter	29.50
MODEL 501–3	Decade Counter	29.50
MODEL 501–4	Shift Register, Parallel	29.50
MODEL 501–5	Shift Register, Serial (4)	29.50
MODEL 501–6	Schmitt Triggers (4)	29.50
MODEL 501–7	Monostable Multivibrators (4)	29.50
MODEL 501–8	Astable Multivibrator (4)	29.50
MODEL 502	NOR Logic	24.50
MODEL 502–1	NOR Logic, 4 one input circuits and 1 four input circuit	24.50
MODEL 502–2	NOR Logic, 6 two input circuits	24.50
MODEL 502–3	NOR Logic, 4 three input circuits	24.50
MODEL 502–4	NOR Logic, 3 four input circuits	24.50
MODEL 503	Decoders	27.50
MODEL 503–3	BCD (1, 2, 4, 8) to Decimal Decoder	27.50
MODEL 503–4	BCD (1, 2, 2, 4) to Decimal Decoder	27.50
MODEL 503–25	Lateral Parity Generator	27.50
MODEL 504–1	NAND Logic, 6 two input circuits	27.50
MODEL 504–4	NAND Logic, 4 three input circuits	27.50
MODEL 504–5	NAND Logic, 3 four input circuits	27.50
MODEL 505	Voltage to frequency converter	225.00
MODEL 507–1	Emitter Follower, eight circuits	24.50
MODEL 513–1	Exclusive OR	34.50
MODEL 518	Digital Selective Filter	34.50
MODEL 519	Crystal Oscillator 100,000 cps with sine and square wave outputs	60.00

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PHYSIOLOGICAL DATA ACQUISITION MODULES

MODEL 601	F. M. Transmitter	$ 345.00
MODEL 602	F. M. Receiver	395.00
MODEL 603	Subcarrier Oscillator	215.00
MODEL 604	Subcarrier Discriminators	450.00
MODEL 605	Module Assembly	375.00
MODEL 606	BSR Amplifier	275.00
MODEL 607	GSR Amplifier	275.00
MODEL 608	BSC Amplifier	275.00
MODEL 609	CSR Amplifier	275.00
MODEL 610	EMG Amplifier	275.00
MODEL 611	EEG Amplifier	275.00
MODEL 612	EKG Amplifier	275.00
MODEL 613	Skin Temperature Amplifier	275.00
MODEL 614	Impedance Respirometer	275.00
MODEL 615	Finger Pleth. Amplifier (Basal)	275.00
MODEL 616	Finger Pleth. Amplifier (Pulse)	275.00
MODEL 617	Power Supply, 150 MAH	75.00
MODEL 618	Power Supply, 220 MAH	85.00
MODEL 619	Power Supply, 450 MAH	125.00
MODEL 620	Power Supply, 1500 MAH	150.00

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SUPPLIES

No. 701	EEG Electrodes	1.50 Each
No. 702	GSR Electrodes (For use with 201 amp.)	10.00 Each
No. 703	EKG Electrodes	2.50 Each
No. 705	Impedance Respirometer Electrodes	2.50 Each
No. 707	GSR Electrolyte, 4 ounces	2.50 Each
No. 708	Recorder Paper, Dual Channel	
	1–24	4.25 Roll
	25–49	4.05 Roll
	50–99	3.75 Roll
	100–	3.25 Roll
No. 709	Recorder Ink	
	Red	6.00 Pint
	Green	6.00 Pint
	Orange	8.25 Pint
No. 710	GSR Electrodes (For use with 711 Cable)	2.50
No. 711	Electrode Cable (For use with 605 Assembly)	12.50
No. 712	Recti-Writer Cables–Galvanometer input	10.00
No. 713	Recti-Writer Cables–Marker input	10.00
No. 714	Ground Reference Electrode	7.00

ACCESSORIES

MODEL 802	Time Code Generator	825.00
MODEL 806	Analog–Digital Data Processor Assembly	550.00
	Modules (400 and 500)	Variable

DIGITAL PROCESSORS

MODEL 904	Digital Data Display	2,450.00
MODEL 908	Storage AND Multiplexer	1,750.00
MODEL 922	Digital Programmer	1,550.00
MODEL 951	Digital Magnetic Tape Recorder	
	Read Only or Write Only Mod. 952	3,750.00
	Read-Write Mod. 953	4,250.00
MODEL 961	Analog to Digital Converter	2,250.00
MODEL 981	Time Code Generator	1,435.00
MODEL 982	Digital Clock	950.00

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DIVISION OF RUSKA INSTRUMENT CORPORATION

6121 HILLCROFT AVENUE • P. O. BOX 36010 • TELEPHONE PR 4-2533

HOUSTON, TEXAS 77036

June 7, 1966

Mr. T. Nelson, System Consultant
Box 1546
Poughkeepsie, New York

Dear Mr. Nelson;

The information that you requested is enclosed. We appreciate your interest in our products and will send you any additional product literature that you require and will do everything possible to supply your needs. In addition to the items described in the enclosed literature, we supply completely automated Data Acquisition Analysis and Logging Systems that completely process data from the source to a digital form and record it on an IBM computer compatible digital magnetic tape. Since there are so many variations in instrumentation requirements for research and industrial programs, we are unable to quote prices on all of our systems. We generally make quotations based on the particular interest of the research scientist or engineer.

If we can be of service to you in quoting equipment prices or in advising you on a system for your requirements, please feel free to call us.

Yours very truly,

Harold C. Childers

Harold E. Childers
President

HEC/jm

Enclosures: Model 806 Data Sheets
Series 400 and 500 Data Sheets
Price List